North American Drought Monitor – March 2007

CANADA: Moderate improvement was seen throughout most of Canada with average to above-average precipitation throughout March. Melting snow packs began to add to stream flow and increased soil moisture and water supplies. Northwest Ontario is the one main exception; this region continued to receive below-normal precipitation resulting in poor soil moisture conditions and reduced river flow.

British Columbia (B.C.): British Columbia continued to receive adequate precipitation throughout March. Three large pacific storm systems brought rain to low elevations and snow to upper elevations over large areas, predominantly in the north. Well above-normal snowpacks have been recorded over much of the province, including record snowpacks in the Peace, Skeena/Nass, Bulkley, and Nechako basins, and along the North and Central Coast. There are no major river basins with below-normal snowpacks; however, some low elevation portions of the Okanagan, Kettle and Kootenay are below normal following warm weather, rain and snowmelt during March. Drought conditions in northern regions that have been reported in previous months have improved significantly. This improvement is anticipated to continue as the above-normal snowpack for the region begins to melt.

Alberta: Conditions throughout Northern Alberta continue to improve, with the driest of regions receiving above to well above normal precipitation in the month of March. New precipitation, added to the melting above average snow pack, should result in favourable conditions heading into the spring. Runoff predictions for northern areas have been assessed at much above average and river levels are at near normal levels. Central and southern regions of the province received below-average precipitation throughout March. Abnormally dry conditions still exist in the southeast, with the driest region being in the extreme southeast. This region will require significant spring precipitation for the producers of the region to have an average year.

Saskatchewan: Conditions throughout southern Saskatchewan continue to slowly improve. Southern areas remain abnormally dry; however, early spring snow accumulations and spring showers resulted in some improved soil moisture and runoff, filling or partially filling dugouts in the region. Stream flow in the southern regions is still below normal in most watersheds and many reservoirs are below or well below capacity. Slow melt conditions (melting and refreezing) have been favourable for slow runoff conditions and have improved soil moisture. Soil moisture is still extremely poor and without significant spring precipitation this region will be once again headed for a difficult agricultural season. There are no concerns at this time for drought in central and northern Saskatchewan, especially in eastern regions where flooding is a significant concern.

Manitoba: Manitoba received normal to above normal precipitation through the month of March. Southern Manitoba received significant snowfall early in the month followed by additional precipitation occasionally throughout the month. This moisture along with above average winter snow accumulations has resulted in significant improvements in the

conditions of this region. Small pockets of the southwest are still abnormally dry; however, conditions overall have improved. There is still some snow left to melt which should continue to improve the situation.

Ontario: Northwestern Ontario continues to be extremely dry, especially the northwestern shores of Lake Superior. This region recorded between 40-60 percent of normal precipitation throughout March and continues to be in the 10th percentile bracket for fall and winter seasons. Steam flows throughout this region are also low, especially in the Dryden, Thunder Bay and Wawa regions. Southern areas of the province continue to receive sufficient precipitation and mild temperatures.

Quebec: Quebec and the Atlantic Region of Canada received adequate precipitation throughout much of the region with the exception of central Nova Scotia and Prince Edward Island. The winter for this region featured limited snow events and minimal precipitation. Dry conditions are emerging as a slight concern; however, one or two Atlantic region events will quickly change the outlook. At this time we have classified these regions as abnormally dry; however, we will continue to monitor their situation closely.

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UNITED STATES: Heavy rain and snow this month relieved drought across large sections of the Plains states, while dry weather in the Southeast and California, the Great Basin, and Southwest worsened drought.

A stormy month, highlighted by an especially large storm complex near month's end, resulted in precipitation more than twice normal across Texas and western and central Oklahoma, as well as over parts of the northern Plains. Record rains late in the month made this the wettest March for Texas in 113 years of record-keeping, according to preliminary data. As a result of the abundant moisture across the southern Plains, there was no drought (D1 or greater) depicted in Oklahoma by month's end for the first time in 2 years. The moisture eliminated most of the Texas drought, which was a significant achievement, given the month started out with D3 to D4 drought in south-central Texas.

Farmers welcomed the enhanced soil moisture, but a number of lakes and reservoirs remained well below capacity, resulting in a lingering area of D0H in the south. To the north, the moisture relieved the drought in Kansas, and eased drought in Nebraska, the Dakotas, and Minnesota.

In the West, several feet of snow with the late-month storm improved the drought situation across Wyoming, and southern Montana also saw a general one-category improvement.

In contrast, abnormal warmth caused snowpack to prematurely melt in the western mountains, and precipitation totaled less than one-half of normal from Oregon to California and eastward through most of the Great Basin. As a consequence, drought expanded across Utah and Nevada, and the severe drought in southern California deteriorated further, leading to D3 drought there. The D3 drought also expanded into western Arizona. By April 1, California mountain snow pack stood at it lowest levels since 1988. March temperatures averaged 4 to 6 degrees F above normal across much of the West.

In the Southeast, March precipitation totaled less than one-fourth of normal from southern Tennessee to northern Louisiana and across Mississippi, northern and western Alabama, and much of Florida. Preliminary data showed that Mississippi experienced its second driest March in 113 years. Alabama notched its driest calendar year-to-date (January-March) on record, with both Tennessee and Mississippi not far behind at number two. By month's end, D1 drought had expanded to cover a large area from eastern Kentucky to Mississippi and Alabama, with D2 over central and northern Alabama and southern Tennessee, and a small area of D3 near the Tennessee-Alabama border. D1 to D2 had spread over the Florida Peninsula, and D1 expanded into southern and northwestern Georgia.

MEXICO: Despite El Nino conditions in 2006-07, Mexico experienced a very dry winter throughout the west. The mean polar jet stayed north of the country during the winter while the subtropical jet was weaker than normal and displaced to the east. Severe to extreme drought conditions (D2 and D3) have continued to spread throughout northwest Mexico due to subnormal precipitation since November 2006. After a fairly productive summer monsoon, the dry winter conditions have not allowed additional recuperation of dam levels in the agricultural states of Sonora, Sinaloa and Nayarit. Moderate drought is now observed along most of the Pacific coast of Mexico from Oaxaca state north to Baja California. Above-normal temperatures have aggravated the dry conditions in western Mexico during the past three months. The drought conditions in northwest Mexico will probably persist or show some expansion during May and June as this is the driest period for the region (normal precipitation <20mm) and June normally is the hottest month of the year. Thus, normal heat and dryness during May and early June will only aggravate the drought in western Mexico.

In northeast and eastern Mexico, a series of cutoff lows and cold fronts in March triggered widespread rainfall. This repeat cutoff low pattern has been prevalent since late

December and thus, the northeast regions of Mexico have received above normal winter and early spring rainfall. In fact, these unusual March rains occurred during the driest month of the year for east central Mexico and, thus, drought development was checked throughout a broad area of the eastern third of Mexico. Exceptions are noted in Chiapas where a dry fall and winter have allowed moderate and severe drought conditions (D1 and D2) to expand in the agricultural areas of the central valleys. Since the summer rainy season is normally in mid to late May in Chiapas, drought conditions are likely to continue to intensify in this region during April and May as this is the hottest time of the year.

Another notable area of persistent dryness (D0 and D1) continues in the dry leeside valleys of east central Mexico from northern Puebla north to Tlaxcala and western Hidalgo. This dryness was tempered by the rains in March, but the exceptionally dry fall left the region with low soil moisture conditions.